CLAIMS

We claim:

1. A system for multiplexing or demultiplexing optical signals, comprising:

an optical fiber interface; and

a concentric spectrometer coupled to the optical fiber interface.

2. The system of claim 1, wherein the concentric spectrometer and optical interface are arranged such that the concentric spectrometer receives a multi-wavelength signal from an optical fiber coupled to the optical fiber interface and spatially separates the multi-wavelength optical signal into its constituent component optical signals.

3. The system of claim 1, wherein the concentric spectrometer and optical interface are arranged such that the concentric spectrometer receives component optical signals from optical fibers coupled to the optical fiber interface and spatially overlaps the component optical signals into a multi-wavelength optical signal.

4 The system of claim 1, wherein the concentric spectrometer comprises an aberration-corrected diffraction grating.

5. The system of claim 1, wherein the optical fiber interface is coupled to an optical fiber such that the optical fiber is optically coupled to the concentric spectrometer.

6. A method for demultiplexing optical signals, comprising:

providing a concentric spectrometer;

receiving a multi-wavelength optical signal at the concentric spectrometer; and

spatially separating the multi-wavelength optical signal into its constituent component optical signals using the concentric spectrometer.

7. The method of claim 6, wherein the concentric spectrometer comprises an aberration-corrected diffraction grating.

8. A method for multiplexing optical signals, comprising:

providing a concentric spectrometer;

receiving component optical signals at the concentric spectrometer; and

spatially overlapping the component optical signals into a multi-wavelength optical signal using the concentric spectrometer.

9. The method of claim 8, wherein the concentric spectrometer comprises an aberration-corrected diffraction grating.